Claims

What is claimed is:

[c1]   A system for evaluating a simulation comprising:

a reference simulator configured to execute a simulation image to obtain golden data;

a test simulator configured to execute the simulation image to obtain test data; and

a comparator configured to generate a comparison result by comparing a portion of the golden data to a portion of the test data before the execution of the simulation image on the test simulator has completed.

[c2]   The system of claim 1 further comprising:

a golden data repository storing the golden data;

a user data used by the comparator to select the portion of the golden data and the portion of the test data; and

a compiler configured to generate the simulation image by compiling a simulation design and the user data.

[c3]   The system of claim 1, wherein comparing the portion of the golden data to the portion of the test data occurs dynamically.

[c4]   The system of claim 3 further comprising:

a buffer to store the golden data.

[c5]   The system of claim 4, wherein the comparator is configured to wait to compare the portion of the golden data to the portion of the test data until after the golden data is stored in the buffer.

[c6]   The system of claim 5, wherein the test simulator and the reference simulator execute the simulation image in lockstep.

[c7] The system of claim 2, wherein the user data is obtained before the test simulator has completed executing the simulation image.

[c8] The system of claim 7, wherein the user data is obtained while the test simulator is halted.

[c9] The system of claim 1, wherein the comparison result is used to debug the test simulator.

[c10] The system of claim 1, wherein the comparison result is used to debug the simulation design.

[c11] A method of evaluating a simulation comprising:

executing a simulation image on a reference simulator to obtain golden data;

executing the simulation image on a test simulator to obtain test data;

selecting a portion of the golden data and a portion of the test data; and

comparing the selected golden data to the selected test data to obtain a comparison result.

[c12] The method of claim 11 further comprising:

debugging the test simulator using the comparison result.

[c13] The method of claim 11 further comprising:

debugging the simulation design using the comparison result.

[c14] The method of claim 11 further comprising:

compiling a simulation design to obtain the simulation image.

[c15] The method of claim 11 further comprising:

storing the golden data in a golden data repository.

[c16] The method of claim 11, wherein the step of selecting a portion of the golden data is performed dynamically.

[c17] The method of claim 16, wherein the step of executing the simulation image on the test simulator and the step of executing the simulation image on the reference simulator is performed in lockstep.

[c18] The method of claim 11, wherein the step of comparing the selected golden data to the selected test data waits on storing the golden data in a buffer.

[c19] The method of claim 11, wherein the step of selecting a portion of the test data is performed dynamically.

[c20] The method of claim 11, wherein user data is used to select the portion of the golden data and the portion of the test data.

[c21] The method of claim 20, wherein the user data is obtained during the step of executing the simulation image on the test simulator.

[c22] The method of claim 21, wherein the step of executing the simulation image is halted to obtain the user data.

[c23] The method of claim 20, wherein the user data comprises a mapping rule to map an implementation of the simulation design for the test simulator to an implementation of the simulation design for the reference simulator.

[c24] The method of claim 11, wherein the step of comparing the selected golden data to the selected test data is performed before completing the step of executing the simulation image on the test simulator.

[c25] A computer system for evaluating a simulation comprising:

a processor;

a memory;

a storage device; and

software instructions stored in the memory for enabling the computer system to:

execute a simulation image on a reference simulator to obtain golden data;

execute the simulation image on a test simulator to obtain test data;

select a portion of the golden data and a portion of the test data; and

compare the selected golden data to the selected test data to obtain a comparison result.

[c26] The computer system of claim 25 further comprising software instructions stored in the memory for enabling the computer to:

debug the test simulator using the comparison result.

[c27] The computer system of claim 25 further comprising software instructions stored in the memory for enabling the computer to:

debug the simulation design using the comparison result.

[c28] An apparatus for evaluating a simulation comprising:

means for executing a simulation image on a reference simulator to obtain golden data;

means for executing the simulation image on a test simulator to obtain test data;

means for selecting a portion of the golden data and a portion of the test data; and

means for comparing the selected golden data to the selected test data to obtain a comparison result.

[c29] The apparatus of claim 28 further comprising:

means for debugging the test simulator using the comparison result.

[c30] The apparatus of claim 28 further comprising:

means for debugging the simulation design using the comparison result.